

## REMARKS

Claims in the case are 1, 3-9, 12-15, 22 and 23, upon entry of this amendment. Claims 1, 3-9, 12-15 and 22 have been amended, Claim 23 has been added, and Claims 2, 10 and 11 have been cancelled without prejudice herein. Claims 16-21 were previously cancelled without prejudice in an amendment dated 28 October 2004.

Claim 1 has been amended to include the subject matter of Claim 2. Basis for the recitation as to the  $-C_{10}H_{21}$  radical in Claim 1 is found in formulas XII and XIII at pages 15-16 and pages 27-28 of the specification.

Claims 3-9, 12-15 and 22 have been amended for purposes of form, for example by replacing "characterized in that" with ---wherein--, and for purposes of improved clarity. Claim 12 has been further amended to depend from Claim 1, in light of the cancellation of Claim 10 herein.

Basis for added Claim 23 is found in Claim 2 (with regard to the recitation of the  $C_2-C_{20}$ -polyether radical), and in formulas XII and XIII at pages 15-16 and pages 27-28 of the specification (with regard to the recitation of the  $-C_{10}H_{21}$  radical).

The paragraph at page 5, line 22 through page 6, line 5 of the specification has been amended to correct a typographical error by replacing the word "advantages" with --disadvantages-- (in line 5 of the paragraph).

Claims 1-14 and 22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 6,025,462 (**Wang et al**). This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Wang et al disclose conductive polymers having a star structure that include: a central core having multiple attachment sites (e.g., a 1,3,5-hyperbranched polyphenylene core); and a shell of conjugated charge transporting arms radiating outward from the core (e.g., of conjugated oligomers or polymers, such as alkyl substituted polythiophenes). See the abstract; column 4, lines 45-52; and the structure at column 8 of Wang et al.

However, Wang et al does not disclose a compound according to Applicants' claims that includes, radiating out from a core, conjugated oligomeric chains that are terminated with a flexible non-conjugated chain (as a terminal capping group). With

reference to the structures at columns 8 and 9 of Wang et al, the conjugated charge transporting arms are composed of oligomeric or polymeric chains comprising at least two R-substituted thiophene monomer residues. Applicants respectfully submit characterizing the R-group of the outermost R-substituted thiophene monomer residue as a non-conjugated chain would accordingly render the outermost thiophene residue as separate from the oligomeric chain. In Wang et al's star polymers, the R-group of the outermost R-substituted thiophene monomer residue is part of and not separate from the monomer residue to which it is connected. In the compound of Applicants' present claims, the terminal R-group is not part of and is separate from a monomer residue of the oligomeric chain (-L-).

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unanticipated by and patentable over Wang et al. Reconsideration and withdrawal of the present rejection is respectfully requested.

Claims 1-14 and 22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by International Publication No. WO 01/59030 A1 (**Burn et al**). This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Burn et al disclose dendrimers that include a core-shell structure in which the terminal groups are aromatic groups or substituted aromatic groups. See the abstract and the figures of Burn et al.

The terminal groups of the dendrimers of Burn et al are substituted aromatic groups. In Burn et al's dendrimers, the substituents (e.g., t-butyl groups) of the terminal aromatic groups are part of and not separate from the terminal aromatic groups to which they are attached. In the compound of Applicants' present claims, the terminal R-group is not an aromatic group, and is not part of an aromatic group.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unanticipated by and patentable over Burn et al. Reconsideration and withdrawal of the present rejection is respectfully requested.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang et al. This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Wang et al has been discussed previously herein, and discloses conductive polymers having a star structure that includes: a central core having multiple attachment sites (e.g., a 1,3,5-hyperbranched polyphenylene core); and a shell of conjugated charge transporting arms radiating outward from the core (e.g., of conjugated oligomers or polymers, such as alkyl substituted polythiophenes).

However, Wang et al does not disclose, teach or suggest a compound according to Applicants' claims that includes, radiating out from a core, conjugated oligomeric chains that are terminated with a flexible non-conjugated chain (as a terminal capping group). With reference to the structures at columns 8 and 9 of Wang et al, the conjugated charge transporting arms are composed of oligomeric or polymeric chains comprising at least two R-substituted thiophene monomer residues. Applicants respectfully submit that characterizing the R-group of the outermost R-substituted thiophene monomer residue as a non-conjugated chain would accordingly render the outermost thiophene residue as separate from the oligomeric chain. In Wang et al's star polymers, the R-group of the outermost R-substituted thiophene monomer residue is part of and not separate from the monomer residue to which it is connected. In the compound of Applicants' present claims, the terminal R-group is not part of and is separate from a monomer residue of the oligomeric chain (-L-).

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Wang et al. Reconsideration and withdrawal of the present rejection is respectfully requested.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Burn et al. This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Burn et al has been discussed previously herein, and discloses dendrimers that include a core-shell structure in which the terminal groups are aromatic groups or substituted aromatic groups.


The terminal groups of the dendrimers of Burn et al are substituted aromatic groups. In Burn et al's dendrimers, the substituents (e.g., t-butyl groups) of the terminal aromatic groups are part of and not separate from the terminal aromatic groups to which they are attached. In the compound of Applicants' present claims,

the terminal R-group is not an aromatic group, and is not part of an aromatic group. Burn et al does not disclose, teach or suggest dendrimers that include terminal groups that are selected from the group consisting of is a straight-chain or branched C<sub>2</sub>-C<sub>20</sub>-alkyl radical, a monounsaturated or polyunsaturated C<sub>2</sub>-C<sub>20</sub>-alkenyl radical, a C<sub>2</sub>-C<sub>20</sub>-alkoxy radical, a C<sub>2</sub>-C<sub>20</sub>-aralkyl radical, a C<sub>2</sub>-C<sub>20</sub>-oligoether or a C<sub>2</sub>-C<sub>20</sub>-polyether radical, or a -C<sub>10</sub>H<sub>21</sub> radical.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Burn et al.  
Reconsideration and withdrawal of the present rejection is respectfully requested.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

By   
James R. Franks  
Agent for Applicants  
Reg. No. 42,552

Bayer MaterialScience LLC  
100 Bayer Road  
Pittsburgh, Pennsylvania 15205-9741  
(412) 777-3808  
FACSIMILE PHONE NUMBER:  
(412) 777-3902

f:\shared\kpl\jrf132.ame